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STUDIES IN THE MELYRIDA NO. 6<br>BY FRANK E. BLAISDELL, SR.<br>San Francisco, California

Recent studies in the genus Trichochrous shows very clearly that the conformis of LeConte is not identical with suturalis LeConte, as suggested by Casey. I have before me a large series of suturalis collected at San Diego, California, during the late eighties and early nineties, and a recently collected series of conformis taken on the Laguna and Cuyamaca Mountains of San Diego County. My series of suturalis was passed on by Colonel Casey. This species has never been adequately described, for it stands almost unique in the development of the humeral angles and basal angles of the pronotum, especially in the more strongly developed individuals. The salient differences between the two species can best be stated as follows:
Suturalis Lec. More robust, head and prothorax relatively large (male), basal angles of the pronotum explanate, strongly chitinized, distinctly rectangular to subacute and more or less prominent laterally; humeral angles likewise explanate and rectangular to prominent laterally, adapted to the pronotal basal angles. A line of white hairs, varying in width, along the sutural margins from about the scutellum to the elytral apex; whitish hairs on the deflexed sides of the elytra and gradually scattering on the disk and apical area. In the male the elytra are gradually narrowed behind from the base. The humeral and basal angles in the female are quite like those of the male and the former sex differs, as LeConte says, in having the sides of the elytra parallel. In both sexes the pronotum is narrowed anteriorly and more or less sinuate before the basal angles.
Conformis Lec. Less robust, parallel and more elongate. Humeral and pronotal basal angles never as strongly developed as in suturalis. The angles usually obtusely rounded and therefore not explanate or subacutely prominent laterally. Cinereous hairs arranged about as in suturalis, except that the sutural line is feebler or absent, the marginal line being heavier and better defined. The sides of the pronotum are more arcuate, less convergent anteriorly and less sinuate posteriorly. Color intense black and shining, while in suturalis it is duller. The two species are quite closely related.
The present opportunity is taken to describe two new species as follows:

## Trichochrous albertensis Blaisdell, new species

Form oblong-oval, sides of pronotum and head noticeably convergent anteriorly, moderately convex, a little more than twice as long as wide. Color black; legs clear rufo-testaceous; antennæ pale toward base, distal joints more or less piceous, basal joint black; mouth-parts more or less pale. Luster shining.

Pubescence not dense, not completely hiding the general surface, short and recumbent, without erect hairs; color flavo-cinereous. Lateral pronotal fimbriæ short, regular and cinereous; lateral elytral fringe a little longer, less close, regular and also pale. Hairs of the under surface of body a little longer and recumbent.

Head moderate in size, across the eyes very little wider than the pronotal apex, about as long as wide; front slightly and broadly impressed between the eyes, punctures small, distinct and in the central area separated by a distance equal to two or three times their diameter; surface more or less finely rugulose, with a slightly convex and glabrous area at middle against the epistomal base. Eyes moderate in size and moderately convex. Antennæ short, extending to about basal third of the pronotum.

Pronotum about a fourth wider than long, moderately convex; apex feebly arcuate to truncate in feeble circular arc; sides moderately and evenly arcuate in basal half, thence anteriorly nearly straight and connvergent to apex, apical angles moderately broadly rounded; base broadly and moderately arcuate, continuously so with the sides, basal angles completely obsolete; disk noticeably more strongly declivous and very feebly compressed antero-laterally; very sparsely punctate, punctures well defined and rather small, separated by a distance equal to three or four times their diameter, interstitial surface smooth to the margins.

Elytra oblong, scarcely twice as long as wide, quite evenly convex from side to side; base transverse, scutellum transverse and densely clothed with fine pale hairs; humeri moderately rounded, very feebly tumid; sides parallel, not arcuate; apex broadly but not strongly rounded from middle third, margins narrowly and distinctly explanate from just behind the humeri, broadening apically into the general surface of apex; surface feebly undulate, punctures about same size as those of the pronotum becoming finer on the apex.

Abdomen extremely finely punctato-rugulose. Legs rather slender, the anterior and middle noticeably shorter than the posterior.

Male, the only sex at hand, has the fifth ventral abdominal segment truncate at apex, scarcely feebly sinuate.

Measurements. Length, 3 mm .; width, 1.2 mm .
Holotype, male, and one paratype of same sex in my own collection. Other paratypes in the collection of Mr. F. S. Carr, of Medicine Hat, Alberta, Canada. Collected by Mr. Carr on - June 26, 1924.

Type locality. Medicine Hat, Alberta, Canada.

Albertensis is to precede simulans Casey according to Casey's table. It differs from that species by the shorter antennæ, more strongly convergent sides of the pronotum, narrowly explanate sides of the elytra which is noticeable when viewed from above, sparsely punctate pronotal disk and shorter lateral pronotal fimbriæ. Simulans Casey occurs at El Paso, Texas. My single male specimen is from Fort Bliss, Texas. Modestus Casey has pale elytra and is found in Kansas. I have several closely related and undescribed species. A generic revision of the Melyridæ is under way.

Trichochrous fieldii Blaisdell, new species
Form parallel oblong-oval, moderately convex, pronotum noticeably narrower than the elytral base. Color black; antennal base and mouth-parts sometimes piceous; femora piceous, basal articulations more or less rufous; tibiæ and tarsi rufous, the former at base and terminal joint of tarsi blackish. Luster shining, pronotal disk especially so; in bright light somewhat æneous.

Pubescence short, recumbent, rather sparse and not hiding the general color of the surface; color ashy-gray. Pronotal lateral fimbriæ $p=1 e$, equal in length and moderately short, closely placed; those of the elytral margins rather short and more widely spaced. On the under surface of the body the hairs are recumbent and rather short; finer on the head.

Head not wider than the pronotal apex, muzzle of moderate length. Eyes moderately prominent, not coarsely faceted. Front not convex, sparsely and rather finely punctate, punctures somewhat larger and slightly denser laterally and the surface feebly rugulose, behind the epistomal base the surface is quite glabrous; vertex and occiput more strongly punctate. Antennæ rather slender, not serrate anteriorly, very gradually and rather feebly incrassate distally; third joint obconical, noticeably elongate; joints $4-10$ subtriangular, fifth distinctly triangular and slightly larger than the contiguous joints.

Pronotum about a third wider than long, apex subtruncate, scarcely narrower than the base; sides moderately arcuate, feebly subangulate at basal third, arcuately convergent anteriorly and rounding broadly into the arcuate base, basal angles absent; apical angles obtusely rounded and not in the least prominent anteriorly; disk moderately convex, sparsely punctate in the central area; punctures moderate, not impressed and separated by a distance equal to two or three times their diameter, laterally punctato-reticulate sometimes rather broadly so, interstitial surface of the central area glabrous and polished.

Elytra a little more than twice as long as the pronotum and less than twice as long as wide; base emarginate, humeri rather narrowly rounded, umbones moderate; sides parallel, very feebly arcuate, somewhat gradually rounded at apex, sutural angles rounded, slightly dehiscent; disk slightly flattened centrally and toward base, evenly
and arcuately declivous laterally, abruptly so at humeri. Punctures not dense, fine, separated by a distance equal to two or three times their own diameter; surface extremely finely rugulose. Abdomen finely punctate, surface very finely and more or less transversely rugulose.

Male, the only sex studied. Fifth ventral segment truncate at apex. Lateral spurs of the anterior and middle tibiæ thickened. Both spurs of the hind tibir equal in size and slightly robust.

Measurements. (Type) length, 3.2 mm .; width, 1.2 mm . Described from six males, the smallest measured, length, 2.8 mm .; width, 1 mm :

Type locality. Rainbow, northern part of San Diego County a short distance south of the county line from Riverside County. One specimen was collected at Ethanac in Riverside County some thirty miles directly north of Rainbow. Specimens collected on April 9, 1926, by Mr. George H. Field.

Holotype, a male, which, with paratypes, is deposited in the collection of the California Academy of Sciences. Paratypes are also placed in Mr. Field's collection at San Diego.

Fieldii appears to be most closely related to fulvotarsis Bland, from which it differs in the more elongate elytra, shorter and sparser pubescence, longer, more slender and not serrate antennæ, as well as in the more prolonged muzzle. Fulvotarsis occurs on the blossoms of Grindelia in the vicinity of east Oakland, Alameda County, California.

Listrus medicatus Blaisdell, new species
Form elongate-oval, slightly narrowed anteriorly, moderately convex. Color black; distal portion of tibiæ and tarsi piceous. Luster shining.

Pubescence short and recumbent, moderately dense and plumbeocinereous in color with distinct maculæ and a vitta of black hairs arranged as follows: Four basal spots, humeral and juxta-scutellar, the latter not confluent across the suture, the former smaller; postbasal, at middle of each elytron, of moderate size; submedian fascia well formed, transverse, interrupted at suture, not quite attaining the lateral margins, anterior margin irregular; subapical row of four maculæ, each nearer to suture and lateral margin than to each other; apical macule of moderate size on each elytron. Pronotal central macule hour-glass-shaped, scarcely subdivided apically and basally; lateral vittæ broken into two small spots or somewhat obsolete. Lateral fimbriæ short and pale. Hairs of the body beneath not dense or long, and similar in color.

Head moderate in size, about as long as wide, muzzle quite short, sides of the front converging rapidly before the eyes. Front feebly and widely impressed, punctures small, well defined, in the central area separated by a distance equal to two or three times their
diameter, denser toward epistomal base and sides of front before the eyes; vertex and tempora densely asperato-punctate; a very small glabrous, slightly convex callus against middle of the epistomal base. Eyes moderately large, very convex and prominent. Antennæ of moderate stoutness, very feebly incrassate and moderately compressed; second joint oval and very slightly longer than wide; third subcylindrical to obconical, fourth feebly triangulo-obconical, fifth noticeably subtriangular and a little wider than the preceding and following joints; sixth to the ninth inclusive similar in form, slightly triangular, ninth slightly more robust, tenth as long as wide and slightly stouter than the ninth; eleventh about twice as long as wide and narrowed apically.
Pronotum slightly wider than long, widest a little behind the middle, strongly convex; apex arcuato-truncate in circular arc; sides moderately strongly arcuate posteriorly, less so, straighter and convergent in front of the middle, serrulations small; angles rounded, base broadly arcuate and rounding into the sides, basal angles represented by a larger serrule; disk noticeably declivous antero-laterally, moderately densely indentato-punctate laterally and less so along base; intervals of the central area flat and smooth, in part feebly indented at times, punctures separated by a distance equal to one or two times their diameter.
Elytra about twice as long as wide; humeri well rounded, not tumid or very feebly so; base transverse; disk with punctures well separated, finer apically, surface slightly undulate basally.
Legs rather slender and of moderate length.
Male. More parallel and less broadened posteriorly, sides of elytra scarcely arcuate; fifth ventral not modified on the surface, evenly and distinctly sinuate at apex. Female broader, sides of elytra noticeably arcuate; antennæ rather slender, joints slightly more elongate; fifth ventral rounded at apex, but not strongly so, apical margin very feebly deflexed.

Measurements. (Types) length, $3-3.4 \mathrm{~mm}$.; width, $1.1-1.3 \mathrm{~mm}$.
Holotype, male, and allotype, female, and a male paratype in my collection; other paratypes in the collection of Mr. F. S. Carr. Collected by Mr. Carr on May 11, 1924.

Type locality. Medicine Hat, Alberta, Canada.
Medicatus is to be more particularly separated from provincialis Blais. The latter is less elongate, smaller in size and the elytral pattern is not so strongly developed. In provincialis, also, the outer joints of the antennæ are more incrassate, the prothorax is relatively larger, and the fifth ventral segment at apex is more asperate. The type of maculation may be similar in both species when extreme; in provincialis, however, it is usually less strongly defined.

